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University Organization.

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UNIVERSITY ORGANIZATION.

1. *German Universities.* By James Morgan Hart. New York. 1874.
2. *Higher Schools and Universities in Germany.* By Matthew Arnold, D. C. L. London. 1874.
3. *Verordnungen und Gesetze für die höheren Schulen in Preussen.* Herausgegeben von Dr. L. Wiese. Berlin. 1867–68.
4. *Five Years in an English University.* By Charles Astor Bristed. Third Edition. New York. 1873.
5. *The Great Schools of England.* By Howard Staunton. London. 1865.
6. "*Personal-Verzeichnisse,*" and "*Verzeichnisse der Vorlesungen.*" Berlin: Winter-Semester, 1869–70. Leipzig: Sommer-Semester, 1870.
7. *Programmes of various German Gymnasia and Real-Schulen.*
8. *Mushacke's Schul-Kalender.* Berlin. 1870.
9. *Oxford and Cambridge University Calendars for* 1874.

The increasing interest taken in the question of University organization, and the desire for information with regard to foreign schools and Universities, are shown, we think, by the recent publication of Prof. Hart's work on the 'German Universities', the republication of that portion of Mr. Matthew Arnold's 'Report on Schools and Universities on the Continent' (London, 1868) which relates to the 'Higher Schools and Universities in Germany', and the publication of the third edition of Mr. Bristed's well-known work, 'Five Years in an English University'. For Americans, this is a healthy sign; and we do not think that we misinterpret it, in regarding it as expressive of dissatisfaction with the present state of higher education in this country, and of a desire to set to work intelligently to improve it.

It would be interesting to note the impressions of an educated foreigner, especially a German, on contrasting the provision made for primary education in the United States, with the great lack of it for superior, or University education. While this country is far ahead of most European States in respect to the former, it is greatly behind them in regard to the latter. The country does not lack in the number of its higher institutions of learning, Colleges and so-called Universities, but there is scarcely one of these that deserves the name of University. We do not believe that this deficiency is explicable on any one of the reasons sometimes assigned for it. The comparative youth of the country does not present a sufficient cause. Some of the leading German Universities, notably that of Berlin (1810), have been founded since the close of our Revolutionary war; and our oldest College dates back to 1636, nearly sixty years before the foundation of the University of Halle, and one hundred before that of Göttingen. If the sparsely settled condition of the country one hundred years ago, proved a serious obstacle then, this has long since ceased to be the case. Making all due allowance for the still thinly settled portions of our land, the facilities for communication are great, and are yearly increasing. Contrast Germany, with its forty-one millions of people and twenty-one Universities, and the United States, with nearly forty millions, and not one real University. The same ratio to population should give us at least twenty.

There is, moreover, no lack of individual bequests and donations to higher education. The spirit of liberality towards higher education has, within the last few years especially, been exhibited to a remarkable degree; but there has been great lack of knowledge as to what constitutes a University, and the amount of money necessary to establish one. The gifts to particular institutions have generally been small, and have been frittered away upon numerous denominational Colleges, which straightway call themselves Universities, without possessing in the remotest degree a University organization. States have also contributed to some extent for this purpose; but in the State endowments there has been the same lack of knowledge with regard to both points above-mentioned. The state of the case with regard to these endowments has been admirably set forth in President White's ad-

dress before the National Educational Association at Detroit; and had he but omitted all mention of a 'National University', he would, in our humble opinion, have met the circumstances of the case better. The discussion of the establishment of a National University would lead us too far; but we may remark, in passing, that we prefer President Eliot's position decidedly; and do not think that the reply of Dr. Hoyt has weakened the force of his arguments. President White's paper does not bear directly upon the question of a National University, and his arguments apply with increased force and diminished objections to State Universities. As yet, but one or two genuine attempts at such Universities have been made by the States, and that not without aid from the General Government. We may also remark that we are no opponents of aid to education from the General Government; but it should be distributed to the respective States, and appropriated by them to specific purposes. The centralizing tendencies of the Government are, unfortunately, already too manifest, and there is no necessity for conferring upon it the management of the educational interests of the country. Also, the needs of the different States are different in proportion to population, present educational facilities, and character of pursuits, agricultural, commercial, manufacturing, or professional. There is no valid reason why agricultural and mechanical Colleges should be established and supported by the General Government, and other equally as important and necessary departments of education be totally unprovided for.

But this is a digression; and though it leads to interesting topics, the subject is too wide, and forms no part of our present purpose. That purpose is, to inquire, What is a University?[1] and what plan of organization is best suited to the needs of American education?[2]

[1] We think it proper to state here, that the rough draft of this article was written before the publication of Dr. Hart's valuable work on the 'German Universities', but we are glad to know that our conclusions coincide so nearly with his.

[2] These questions are of peculiar interest at this time, when two American Universities are about to be established in the Middle States, convenient of access to the whole country, and with endowments, present or prospective, which lead us to hope that they will not be allowed to sink into mere Colleges. We refer to the Vanderbilt University, near Nashville, Tenn., and the Johns Hopkins University, near Baltimore, Md.

At the outset, let us state that by 'University' we do not mean *College*, in the American sense of that term. The organization of the ordinary American College is well-known, with its four classes, Freshman, Sophomore, Junior, and Senior, and its course of study leading to the degree of Bachelor of Arts, conferred sometimes with, and sometimes without examination, either oral or written; and even in cases where examinations are held, often no stress is laid upon them as tests of a student's fitness for the degree, so that the degree of Bachelor of Arts in many of the curriculum Colleges has degenerated into a reward for four years' attendance upon the collegiate course, with no adequate guarantee that the student has profited by the instruction given. Some of our best Colleges are nobly endeavoring to stem this tide of degrees, and honor be to them for it: but we fear that their efforts will be in vain.

It will not be claimed that the culture given by even the best American Colleges is that which the country ought to afford. In many instances it might be better, but that the College often has to perform High School or Academy work; such is the lack throughout the whole country of any well-organized system of 'Upper Schools'. The assertions made of the College will apply to the large majority of those institutions called 'Universities' in this country, many of which are limited to an academical department: others have Schools of Law and Medicine, one or both, connected with them, and call themselves 'Universities', while the academical department still consists of the old curriculum, often inferior to that of many which still retain the more unpretentious name of 'College'.

We find the term 'University' applied during the Middle Ages to the ancient foundations of Paris, Salamanca, Bologna and Padua, Oxford and Cambridge, Prague and Leipzig, with their four Faculties of Law, Medicine, Theology, and Philosophy, or Arts, and their different 'nations' among the thousands of students in attendance. On whatever ground the name was originally applied, the prescriptive title has continued to be used among the nations of Europe in reference to a school possessing these four Faculties for the *highest* academical and professional instruction; and whatever changes of organization such institutions

have undergone in different countries, and however separate from literary and scientific education, professional education has become in some, notably in England, the title is still used to designate the school where the *highest* education, apart from the technical and practical, and the most thorough culture the country affords, can be obtained. The term 'highest' is undoubtedly relative, and means a different thing in different countries: but the definition of a University as a school for the highest general education in each particular country, is nevertheless true. How then do American Universities compare with foreign? Let the annual influx of American students to German Universities suffice for a reply. We should be ashamed to acknowledge that the highest general education this country can afford, is that given in the 'one hundred and one' (!) American Universities, specified in the annual report of the U. S. Commissioner of Education. That it does not suffice for the wants of the people, for the demands of the educated American mind, this annual migration of hundreds of American students to foreign, especially German, Universities sufficiently attests. Is there any remedy then for this state of things? What are we going to do about it? Let us endeavor briefly to examine the organization of the English and German Universities, and see if we can derive any hints that will be serviceable to us in the organization of an American University suited to the present demands of American education.

The Universities of Oxford and Cambridge are unique, each being an aggregation of Colleges, the growth of centuries, and the whole system peculiar to the country itself. Oxford consists of twenty-five Colleges and Halls, and Cambridge of seventeen. Each College possesses its Faculty of Arts; and even in the Colleges, the main instruction is not given by the College Professors (called Tutors, who are resident Fellows of the Colleges), but by private tutors. The University lectures are often merely nominal, and the University professorships are often sinecures. Comments on the small number of students attending the professors' lectures, and the reason assigned therefor, may be found in Mr. Bristed's work [pp. 166-167]. Mr. Bristed says: 'It is *because* they are working so hard, that the great body of reading men do not

come to the lectures—working with their private tutors (who correspond to German professors in some respects, as has been observed) for the Tripos, the scholarships, or the College Mays. If the Greek professor were really called on to teach the University Greek, he would be lost at once—he could not even attend to the hundred, or hundred and twenty men of the three years who intend to go out in the classical Tripos. There is no Latin professorship in the University.' These few remarks give the key to the whole system. It is a system of study under private instruction, where the student's private tutor does all the work with him; and as far as he is concerned, neither College nor University professor need exist until the time comes for his examinations. Mr. Bristed is altogether wrong in comparing these private tutors to German professors, and in this shows that he was not acquainted with the German University system: had he ever heard a German professor lecture to more than two hundred students together, he would not have thought it necessary to apologize for the Cambridge professor of Greek, although the teaching is of a different kind from that with which he was familiar at Cambridge. A professorship of Latin was added to Cambridge University in 1869; but as the Calendar tells us (p. 248) that 'The Professor is required to deliver a course of not less than ten lectures in each of the two terms in every year', we are not surprised that attendance at professors' lectures should be small; we are only surprised that any University professors at all should be thought necessary, as far as instruction is concerned.[1] We have no intention of underrating the scholarship of the 'honor-men' at the English Universities; but we think conferring degrees for the small attainments of the Oxford

[1] As illustrating still further how Englishmen are wedded to their tutorial, as opposed to the professorial, system of teaching, we find the following item of news going the rounds of the papers, under the heading, 'Progress in the University of Oxford':—'During the past year, the Vice-Chancellor of Oxford issued a "circular letter of inquiry" to the schools comprising the University, asking for suggestions regarding a proposed extension of its facilities for instruction. In answer to this, replies have been made by the different faculties, all of which demand an increase in the number of professors and readers. To the increase in professorships, Professor Chandler, however, protests, and he predicts that nothing but incessant squabbling will result from any increase in the number of professional lectures, which he regards as a "barbarous mode of teaching".' Evidently Mr. Matthew Arnold is right when he styles Oxford and Cambridge 'hauts lycées'.

'Pass-men' or the Cambridge 'Poll', as much to be condemned as the indiscriminate American practice. The benefits derived from an intellectual training such as that obtained by the student who studies for honors, have been well set forth by Mr. Bristed in his chapter on 'The Cambridge System of Education in its Intellectual Results', and the thoroughness and accuracy of scholarship of the 'honor-men', in both the classical and mathematical Triposes, cannot be denied. It might be a question as to whether the development was not in most cases one-sided; but we will readily grant that it is better to be thorough and accurate in some one thing, to feel one's self complete master of some one subject, than to be superficial in many, which is the tendency and result of American education. But we do not think the tutorial system as well adapted to the development of the mind, as the professorial system — but more of that hereafter.

The function of the leading English Universities, then, seems to be to hold examinations and confer degrees, leaving the teaching to be done by the private tutors attached to the several Colleges. This system is dependent upon the immense endowments of the particular Colleges, and the numerous Fellowships connected with them, which yield the fortunate holders incomes of from one to two thousand dollars per annum.[1] Such prizes unquestionably induce hard study, and are the rewards of most rigid examinations; but a system of instruction based on such stimuli is only possible where wealth has already furnished the necessary stimuli.

The preparation for entrance to the English Universities is given by the large 'Public Schools' of Eton, Harrow, Rugby, &c. (ten of which are fully described by Mr. Staunton), the work of whose higher classes, particularly in classics, and, in some of them, in modern languages, mathematics, and the sciences, corresponds to the work of our Colleges. The tutorial system prevails here also, the pupil working with his private tutor, as well as with his 'Form Master'. There is no uniformity of plan or method, however, as is the case with the German Gymnasia; but

[1] The recent Report of the Universities Commission states that there is *annually* paid in Oxford, to Fellows, the sum of £102,000, and to Scholars, Exhibitioners, Prizes, and Examiners, £44,000; and in Cambridge, to the former, £103,000, and to the latter £33,000.

in all these schools, the classics are the fundamental basis of the instruction given. As an example, we quote from Mr. Staunton's chapters on Rugby (pp. 383–4): 'The time of a boy at Rugby School thus allotted in the compulsory school-work to attendance before his teachers in each week, amounts, on an average, to—

Classical, about	17	hours, including private tuition.
Mathematics,	3	" } exclusive of private tuition,
Modern Languages,	2	" } which is variable.
Total,	22	hours.'

In the classical time is included one hour per week in history and geography, and two hours in Divinity, and two hours in natural philosophy may be substituted for modern languages. To this must be added time for preparation of ordinary lessons, and time for composition, which will differ according to the habits and abilities of different boys; but the whole 'need not be more than eight or nine hours' work altogether, on a busy day'. We have not the space to go into a detailed account of the English Public Schools, but we see that the whole English system of secondary instruction is based on a study of the Latin and Greek authors; and this is due, we think, to two causes,—the traditional study of these authors, and the stress laid upon the examinations in them by the Universities. Any change in this system of instruction would have to be inaugurated by the Universities, to whose requirements the schools would adapt themselves; but the English are well enough satisfied with the results of their system, and from the well-known conservative tendencies of the nation, the classics will continue to rule in English secondary education. The schools, like the Universities, are the products of years of accretion, and the whole system is an organic growth, suited to the peculiar circumstances of the people among whom it has arisen; and, even if it were desirable, could not be successfully imitated in this country.

But we do not think it desirable. The organization of a German University comes nearer to our ideal. It is an established system, not a growth of years, in the same sense as the English system; for many of these Universities, and some of the most celebrated, Berlin, Bonn, and Munich, have been established

since the beginning of the present century. The system of the German University is more universal, applicable to all times and all countries, capable of infinite expansion, and suited to embrace the whole circle of human knowledge. As the bounds of human knowledge increase,—and they are daily increasing, especially in respect to the natural and experimental sciences,—additional professorships may be established, which harmonize with the general plan and suit the popular wants. There is no room now for ignorance of this system, for it has been clearly and fully set forth by Mr. Matthew Arnold, and more recently by Dr. Hart, who has done good service in the cause of higher education in this country, by his recent interesting and accurate account,—if only proper heed will be given to his words. Let us dwell, for a few moments, on the organization of a German University.[1]

The University consists of the four Faculties of Theology, Law, Medicine, and Philosophy, with three classes of teachers in each, Ordinary Professors,[2] Extraordinary Professors, and Privat-Docenten. Each Faculty elects its own Dean for one year; and the ordinary professors elect, for the same period, the Rector of the University, who is the administrative head for that year. The Academical Senate, or administrative council of the University, consists of the Rector, ex-Rector, Dean, and one or two representatives from each of the four Faculties, and is chosen by the ordinary professors, although in some Universities, all the ordinary professors are members of the full Senate. This Senate also selects, or 'calls', the professors to fill any vacancy in the Faculties, or to lecture on any new subject of instruction; but the professors receive their appointments from the Minister of Public Instruction. The Senate has every inducement to 'call' the most competent man in any particular branch throughout the length and breadth of Germany, whether he be ordinary professor, extraordinary professor, or Privat-Docent, at the same or any other University. What a contrast to the method of selection of professors in any American College or University!

[1] See Matthew Arnold's 'Higher Schools and Universities in Germany', chap. vii, and Hart's 'German Universities', part ii.

[2] We prefer the terms Ordinary and Extraordinary Professors, to Full and Assistant Professors, as better suited to the German '*ordentliche*' and '*ausserordentliche*', for our word Assistant Professor conveys an erroneous idea when applied to the German *ausserordentlicher Professor*.

The ordinary professors alone have any voice in the administration of the University, enjoy full privileges of professors, and receive in all cases a salary from the State, as part of their emolument. The extraordinary professors are not assistants, but do not rank as high as the ordinary professors, and do not always receive a salary from the State. They have full liberty to lecture upon any subject connected with their Faculty, and particularly their own specialty, charge the same fees as the ordinary professors, and often have more crowded lecture-rooms: from their number the ordinary professors are chosen.

The field from which the extraordinary professors are taken, is the body of Privat-Docenten attached to each Faculty of the University. The Privat-Docenten are found only in German Universities: they are professors in embryo, young men, who, after taking their Doctor's degree, are authorized to teach in the particular Faculty for which they apply. Being without any salary whatever from the State, they are entirely dependent on their lecture-fees, or on the private instruction which they sometimes give; and this, with the greater stimulus of a reputation to make and a position to take before they are called to be professors, makes a body of hard-working men, the bone and sinew of the University. Dr. Hart calls them 'the life-blood of the institution', and Mr. Matthew Arnold says, 'the Privat-Docent is peculiar to Germany, and is the great source of vigor and renovation to her superior instruction'. On leaving the Gymnasium, we may say, the specialty of the future Privat-Docent is already chosen. He has already selected the Faculty in which he will be enrolled, and for at least three years (six semesters), sometimes longer, devotes his time to hearing lectures bearing on topics cognate with that which he has selected, writes his doctor's dissertation as the first-fruits of his studies, follows it up with his inaugural dissertation, by way of examination for his position, and if approved, is licensed by the particular Faculty as Privat-Docent in that Faculty.

Thus there is no lack of material for German professors, and the system is one which regulates itself.

As may have been already inferred, instruction in the German Universities is entirely by lectures, and a student selects for him-

self such lectures as he wishes to hear. The professor devotes his whole time in the presence of the students to lecturing: there is no roll-call, no questioning, nothing to prevent his occupying the whole hour, after deducting the time necessary for assembling. There is also, consequently, no guarantee that the student is present at the lectures. He is regarded as master of his own time; and if he does not choose to attend, it is his own loss. He must, however, have the professor's signature in his matriculation-book (*Anmeldungs-Buch*) opposite the title of the lecture, at the beginning and at the close of the semester; for this book is his official evidence that he has, at least, matriculated for certain courses of lectures in each semester; but where he may have been in the meantime, the professor has, of course, no means of knowing. This will, undoubtedly, be regarded by our strict constructionists as a crying defect in the German University system; but we must take into consideration the fact that German University students are no longer boys, but young men, and as such, responsible for the use made of their time, which will be shown by its results at the close of their University course; for, after leaving the University, the German student must stand a State's examination for whatever profession he desires to follow, clergyman, lawyer, physician, or teacher, and these examinations are much more rigid than the ordinary examinations for the Doctor's degree.

The number of lectures delivered by each professor is optional, and consequently varies greatly; but each professor is required to deliver during the semester a course of public lectures, consisting of at least one lecture per week, free of charge. In point of fact, a German professor in full work usually delivers two courses of private lectures (*i. e.* those for which fees are charged), consisting of four hours each per week through the semester, in addition to his public course of one or two hours per week. The fee for such a course is one Friedrich's-d'or (five thaler, twenty groschen, equal to about four dollars and twenty-five cents gold) per semester. In addition to the salary received from the State, which varies from five hundred to two thousand dollars per annum, according to the reputation of the professor, the professor receives these lecture-fees. The number of hearers varies, of course, according to the subject of lecture and the reputation of the professor:

the most distinguished professors have crowded lecture-rooms; the less distinguished have often not half-a-dozen hearers. We attended each of the private courses of the late Professor Haupt in Berlin, one on 'the Satires of Horace', and the other on 'the Iliad', at the former of which the hearers numbered about one hundred and fifty, and at the latter over two hundred, so that many had only standing-room until the Professor moved to a larger lecture-room. Similarly, in Leipzig, we were one of about two hundred who attended the lectures of Professor George Curtius on 'the Elements of Comparative Grammar'. *Per contra*, we dropped in one morning at the *public* course of Professor Nobbe in Leipzig, and found him lecturing in Latin, on the 'Oedipus Rex', to about half-a-dozen students. Lectures are still sometimes delivered in Latin, as the students from the Gymnasia understand it readily, and many converse in it fluently; but the practice is gradually dying out, except in the explanations of authors in the Philological Seminary,[1] where the practice varies somewhat: Professor Haupt always used German in interpreting a Latin author; we heard him on 'the First Book of Lucretius'; Professor Kirchoff used Latin in interpreting 'the Speeches of Lysias'; but sometimes, when the students did not seem to explain themselves with sufficient fluency or accuracy in Latin, he would have recourse to German.

The number of lectures attended by each student also varies, but we may say that a student will usually take about four courses, giving him an average of three or four hours per day, or from fifteen to twenty per week, during the semester. There are no examinations in a German University, except for the degree of Doctor in each Faculty. Dr. Hart has described in full the examination for the degree of Doctor of Laws, in the University of Göttingen.[2] The examination for the degree of Doctor of Philosophy, the only literary or scientific degree conferred by a German University, does not differ materially in form. The candidate writes his dissertation, in Latin if on a subject relating

[1] For an account of the Philological Seminaries attached to each University, see Wiese's 'Verordnungen und Gesetze', part ii., p. 27, *et seqq.*

[2] Hart's 'German Universities', part i., chap. xiv., p. 217. [See also 'The Nation,' No. 516, for May 20th, 1875.]

to language or literature, in German if on a subject relating to any one of the natural or experimental sciences, the subject being selected by the candidate himself. The preparation of this dissertation involves much hard study, extensive reading on the particular point discussed, and the formation of an independent opinion, not a 'rehash' of what somebody else has said; for on this depends chiefly the awarding of the degree. If the dissertation is approved, the candidate presents himself for oral examination before at least two professors of the Faculty, or of that department of the Faculty in which he wishes his degree, and is examined orally by each, on two subjects previously selected by himself. If this oral examination is satisfactory, the degree is awarded on compliance with certain specified conditions, chiefly pecuniary,—for the defence of theses before an audience is a mere form, and it is surprising to us that it has not long since been abolished.

The German University system, of which this very brief outline has been given, is, then, framed for the purpose of encouraging individual and independent study on the part of the students, and persistent and independent labor on the part of the professors. It regards students as young men, and leads them to the latest and best thought of modern times on all subjects of instruction; for, unless a professor keeps up with the times in his specialty, he is left behind in the race, his lecture-room is empty, and the students go to some younger, more wide-awake, and more energetic man. A German University professorship is no place for stagnation. Reputation, and even pecuniary support itself, depend upon the professor's keeping himself abreast of modern thought in his particular department. In fact, this latter condition is but too rigidly enforced; for we think that some provision should be made for the old age of a faithful professor, who has served his time, and is naturally overtaken and passed by his younger and more energetic brethren.

Is this, then, the system which we propose to introduce into this country? Would it not shoot far above the heads of even our College graduates? Undoubtedly it would, and we do not propose to make haste so fast. This may, however, suffice for our model; but before developing our ideas of an American

University, let us inquire how students are prepared to take advantage of this higher instruction; for that they do take advantage of it is unquestionable, and that the present unrivalled position of Germany among the nations of the earth in respect to higher culture, and consequently in respect to political weight and influence, is due to her admirable educational, and especially her University, system, no less than to her military organization, is, in our humble opinion, also unquestionable.

Every student entering a German University must bring his leaving-certificate (*Abgangs-Zeugniss*), also called certificate of ripeness (*Zeugniss der Reife*), from some one of the hundreds of Gymnasia scattered throughout the Empire. This certifies that he has satisfactorily passed the leaving-examination (*Abiturienten-Prüfung*), with some one of the affirmations (*Praedicate*), 'satisfactory', 'good', 'very good'. Before stating what this leaving-examination is, let us look at the organization of the German Gymnasium. It is a secondary school, consisting nominally of six classes, numbered from the lowest, Sexta, to the highest, Prima; but in reality the two highest, and in some schools the three highest, classes have upper and lower divisions, so that we have an Ober-prima, and an Unter-prima, etc., and the course from Sexta to Ober-prima comprises eight or nine years. The boy enters at ten years of age, or thereabouts, and leaves at nineteen; this is the average.

The general course of study in the Prussian Gymnasia, which may serve as a type of the rest, with the number of hours per week assigned to each subject of instruction, is as follows:[1]

	VI.	V.	IV.	III.	II	I.
Religion	3	3	2	2	2	2
German	2	2	2	2	2	3
Latin	10	10	10	10	10	8
Greek			6	6	6	6
French		3	2	2	2	2
History and Geography	2	2	3	3	3	3
Mathematics and Arithmetic	4	3	3	3	4	4
Physics					1	2
Natural History	2	2		2		
Drawing	2	2	2			
Writing	3	3				
	28	30	30	30	30	30

[1] Wiese's 'Verordnungen und Gesetze', part i., p. 33. See also M. Arnold's Higher Schools and Universities in Germany', chaps. ii. and iii.

In the three lower classes one hour per week may be taken from Latin and given to German, if necessary; and in Prima, part of the German time is devoted to instruction in the elements of Mental Philosophy, and especially of Logic. Instruction in Hebrew, which is compulsory only for future students of Theology or Philology, is given for two hours weekly in II. and I. outside of the regular school-hours, which are from 8 to 12 o'clock daily, and from 2 to 4 o'clock daily, except Wednesday and Saturday, which are half-holidays. Instruction in singing and gymnastics is also given outside of the regular school-hours, in the former for two, and in the latter for four hours weekly in each class.

It must be borne in mind that this scheme of study is published by the Ministry of Public Instruction, and by it all the Gymnasia must work; but the Ministry does not stop here. It publishes also the special course of study (from which our limits do not permit us to quote,) in each subject for each class; and for the introduction of any new text-book, the Director of the Gymnasium must obtain the consent of the Provincial School-Commission, and if the book has not already been approved as suitable for introduction into the Gymnasia, the approval also of the Minister of Public Instruction. Doubtless such bureaucracy would not suit democratic America; but it ensures the arrangement of a course of study, and the selection of text-books, by competent authority. The number of hours per week occupied by each teacher in class-teaching varies somewhat, but the higher teachers (*Oberlehrer*), who teach from Tertia to Prima, are occupied usually from sixteen to twenty hours per week; the ordinary teachers (*ordentliche Lehrer*), from twenty-two to twenty-four.

As an illustration of the size of some of the Gymnasia situated in large cities, there were in the Friedrich-Wilhelms Gymnasium, in Berlin, during the summer-semester 1869, 639 scholars, taught by a staff of twenty-four instructors, besides the teachers of drawing, writing, singing, and gymnastics, making twenty-eight in all. The tuition-fees vary greatly, according to the situation of the Gymnasium in a small town or city and its endowment, and according to the class attended. They may be

set down for the least expensive from six thaler (four dollars and a half in gold) per annum, in Sexta, to seventeen thaler in Prima; and for the most expensive, from thirty-three thaler in Sexta to forty-one in Prima. We spent some time in Berlin in visiting different Gymnasia, *Real-Schulen*, and other schools, sitting in the class-room for several hours each day and listening to the ordinary class-teaching. We were especially struck with the earnestness which seemed to pervade the schools, the consciousness that teachers and pupils came there to work, and, on the part of the teachers, that teaching did not consist in hearing a specified lesson out of a text-book, but in impressing upon the pupil by continual repetition the facts and principles of the subject, until the teacher was convinced that they had become part of the pupil's mental furniture, were intelligently grasped, and would be permanently retained. The effort seemed to be to avoid 'cram', and to develop mind by close and careful personal teaching. The teacher goes for much, and the text-book for very little; with us, the opposite is too often the case. Frequently the teacher will use no text-book, and here is room for the power of personal magnetism, and the exhibition of individual capacity for imparting knowledge and training the mind. The teacher himself must then be a man of learning, thoroughly qualified for his work; and this the Government seeks to ascertain by the State's-examination for teachers.[1] No teacher can be appointed to a Gymnasium or *Real-Schule* in Prussia, who has not received from one of the teachers' examining Commissions of the Kingdom the authority to teach (*facultas docendi*); and the certificate is of three grades, according to the character of the examination: the first, for the three higher classes (*Ober-* and *Unter-Prima* and *Ober-Secunda*); the second, for the middle classes (*Unter-Secunda*, *Ober-* and *Unter-Tertia*); the third, for the lower classes (*Quarta*, *Quinta* and *Sexta*), and no teacher can be advanced from one grade to the other except after examination.

There is one examining-commission (*Wissenschaftliche Prüfungs-Commission*) for each province of the Kingdom, and the candidate must present to this Commission his certificate from

[1] Wiese's 'Verordnungen und Gesetze', part ii., chap. ii. M. Arnold's 'Higher Schools, etc.,' chap. v.

the Gymnasium of 'ripeness' for University-studies, his leaving-certificate from the University, of having completed the academical Triennium, an account of his life up to that time, written in Latin, and, as the written examination, a dissertation on some literary, scientific, or educational subject, assigned by the examining-commission, and one or two briefer essays on the subjects in which he desires especially to be examined, and which he wishes the authority to teach. The four departments, in any one of which this authority to teach is granted, are: 1. the philological-historical; 2. the mathematical-scientific; 3. religion and Hebrew; 4. the modern languages. All essays relating to classical philology or ancient history are to be written in Latin; to modern languages, in the particular language for teaching which the candidate is to be examined; to other subjects, in German, unless the candidate prefers to use Latin, French, or English. We cannot give a better idea of the oral examination than by repeating the statements kindly made to us by Professor Emil Hübner of the University of Berlin, the examiner in Classical Philology of the Commission for the province Brandenburg, which holds its sessions in Berlin. Professor Hübner stated that he had no particular scheme of questions or form of examination, but usually took that author which the candidate said he had especially studied, and he gave specimens of questions he would ask about Homer, as an example. These embraced the history and criticism of the poems, some account of the principal manuscripts, the labors of Aristarchus, the Wolfian theory as enlarged by Lachmann, and how the two differed; also matters connected with the dialect, how it differed from the later Ionic, and, in general, when any author was the subject of examination, any questions in grammar, metre, literature, antiquities, history, and criticism, connected with the author, were liable to be asked. He also showed us a pile of dissertations, all in Latin, which had been sent him by candidates to be examined before their oral examination took place. He himself had assigned the themes months beforehand, and some of the dissertations he had had on hand for six months, there being so many to be examined by the commission in Berlin that they had not yet come to these names. He stated that the Berlin Commission had 120 or 130 to examine every

year, and that they gave every Monday and Tuesday, from 4 to 9 P. M., to the examinations, during which time he got through with three, or sometimes four, a day; the Commission in Breslau had about sixty a year to examine; those in Bonn and Göttingen, about fifty each, &c. He read the titles of some of the themes, all on classical subjects, and also read his report of the examination of one candidate recently, and the certificate which he had attached to it. He had found this candidate deficient in preparation, and was not satisfied with his treatment of the theme, and had given him a certificate of qualification to instruct only in the *middle* classes of the Gymnasium. Strangers are not permitted to be present at these examinations, and he generally held them as *tête-à-tête* conversations, though in some places it was customary for them to be held before all the members of the Commission; but in Berlin they had so much to do that the examiners were all examining at the same time in different parts of the room. The regulations for the examination are given by Dr. Wiese in his 'Verordnungen und Gesetze' (part ii., p. 74 *et seqq.*).

The salaries of teachers[1] vary, as in the case of tuition-fees, according to the location of the Gymnasium, in a small town or a city, and according to its income or endowment. In Gymnasia of the first class the Directors receive 1800 thaler (say 1350 dollars in gold), and the teachers from 600 to 1300 thaler, according to rank; of the second class, the Directors, 1600 thaler, and the teachers, 550 to 1150; of the third class, Directors, 1200 to 1400 thaler, and teachers, 500 to 1000. The municipal Gymnasia sometimes pay higher salaries than these; *e. g.*, the Director of the Friedrich-Wilhelms Gymnasium in Berlin receives 2750 thaler, but under his supervision stand a Gymnasium, a *Real-Schule*, a preparatory school, and a female school. These salaries seem very inadequate; but so great is the supply of teachers, and the honor of the position, that there is never any difficulty in obtaining them. The very frugal mode of living, and the cheapness of the necessaries of life, except in the largest cities, are, doubtless, causes of the small salaries. All the Gymnasia and *Real-Schulen* of each province are under the direct supervision of the Provincial School Board, or Commission (*Schul-*

[1] Wiese's 'Verordnungen und Gesetze', part ii., chap. vi.

Collegium), at least one member of which is charged with the special care of the interests of these schools. These Commissions appoint the teachers in the Gymnasia and *Real-Schulen*, subject to the approval of the Minister of Public Instruction, and in the case of the Directors, of the King himself. A member of the Commission must always be present and preside at the leaving-examinations (*Abiturienten-Prüfungen*) of the Gymnasia and *Real-Schulen*.

Our limits do not permit us to go into further detail with regard to the organization and management of German schools, for this account of them has been introduced only as it bears upon the preparation of students for the Universities.

After the eight or nine years' study in the course outlined above, and under teachers qualified as above-mentioned, the student comes at the close to the leaving-examination, which is to test his fitness for pursuing studies at the University. Dr. Wiese devotes the whole of Chapter VII., Part I., to an account of this examination, and Mr. Matthew Arnold describes it fully in Chapter IV. But it seems to us that a better idea may be given by describing such an examination as actually held, with specimens of the work done, as illustrations. Director F. Ranke,[1] of the Friedrich-Wilhelms Gymnasium in Berlin, was so kind as to send us all the papers connected with one of these examinations, and allow us to make such extracts as we wished. We shall give a summary of their contents, and a few extracts from them, stating in advance that no assistance whatever is allowed in doing any of the written work.

They consist of nine books, the papers on each subject by the several candidates being bound for permanent preservation. The books are: (1) Records of the examination and copies of the written certificates given to each Abiturient. (2) Latin Exercises. (3) Latin Essays. (4) Greek Exercises. (5) Mathematical Problems. (6) French Exercises. (7) German Essays. (8) Hebrew Exercises. (9) Biographies of each candidate. The records of the examination are the minutes of each day, including even the names of the teachers who exercised supervision and for what length of time, and the exact time at which each student handed

[1] Brother of the distinguished historian, Leopold von Ranke.

up his papers. For writing the Latin Exercise two hours were allowed, exclusive of dictation, which occupied forty minutes; for the Latin Essay, five hours; German Essay, five hours; Mathematical Problems, five hours; Greek Exercise, two hours, exclusive of dictation, which lasted thirty minutes; French Exercise, three hours, including fifteen minutes for dictation. For each of these examinations a separate day was assigned; the Hebrew was on the same day with the Greek, in the afternoon, and lasted two hours. After this record follows a tabular statement of the result, the epithets 'good' (*gut*), 'satisfactory' (*befriedigend*), and 'unsatisfactory' (*unbefriedigend*), being attached to each work; the class-standing, and the oral examination, which occurred later, being similarly designated. The written examination lasted from the 29th of August to the 4th of September (Sunday excluded), and the oral examination took place on the 25th of September; each examination was opened with prayer. The two best of those who had passed the written examination were excused from oral examination, (the whole number standing the written examination being *thirteen*); two had withdrawn on account of sickness, and of two others who had done very badly, one had determined to become a merchant, and the other to return to school another semester, so that *nine* received the 'certificate of ripeness'. The oral examination took place in the following order: Beginning soon after 8 A. M., to 10:45, Religion; 10:45 to 12:30, Latin; 12:30 to 2 P. M., Greek; 2 to 4, a recess; 4 to 5:30, Mathematics; 5:30 to 7, History. The record contains a report of the special subjects assigned to each one, and the way in which the questions were answered. At the close of the examination there was no disagreement about granting certificates to six, but concerning the other three, the member of the Provincial School Commission, who is always required to be present at the oral examination, declined to vote, but without protesting against the unanimous decision of the teachers, who, with himself, constituted the examining Board. As a fair representation of what is required in the written examination, we shall copy here the Latin Exercise of one who received only the epithet '*befriedigend*', and was not excused from oral examination. We omit the German dictation, and write the Latin translation word for word, being convinced that

only after seeing what is actually done, can a correct idea of the examination be formed. Professor A. W. Zumpt's corrections are enclosed in brackets, and those words or phrases reckoned as positive errors are printed in italics:—

'Disputatio nostra in viri clarissimi vita enarranda versatur; *propterea* [praeterea] autem ad gravissimas duas res demonstrandas magnopere proderit, quae, quamquam in hoc quaestionum genere commendari solent atque praecipi, tamen nimis facile negliguntur. Etenim cum ea, quae antiquis temporibus facta sint, enarrantur [omit e-], quid magis cavere jubemur, quam ne ab auctoribus, qui ea tradiderunt, dissentiamus? Omnino enim vix fieri potest ut, prae nostra sapientia impune veteres auctores [contemnamus], non solum bonos, quorum neque fidem neque scientiam, nisi valde nobis sumus contenti [ipsi placemus], accusare possumus, sed etiam mediocres contemnamus [place above]. Tantopere nostri mores atque instituta diversa sunt ab antiquis, tanta plurimorum qui vetera illa tradiderunt est diligentia! Errat enim [etiam] facile judicium, ut, quem non licet, parvi aestimandum esse judicemus, eoque magis, si ab iis quae ipsi invenimus [invenerimus] dissentire videtur [videatur]. Exemplo ut utar, temporum quibus nostra disputatio occupata est duo tantum ampliores [copiosiores] atque perpetui exstant narratores, Dion Cassius et Appianus. Quorum uterque, quod graece scripsit a nonnullis contemnitur, quasi Romanas res non intellexerint, praesertim si qua in re Ciceroni et Caesari contradicere videantur. Nos autem [vero] non solum Appianum, cujus bellorum civilium historia plerumque laudari solet, sed etiam Dionem Cassium in rebus Caesaris a nobis fidelem ducem inventum esse confi[te]bimur, accuratissimum, diligentissimum, rerum in ordine et in tempore constituendo, in quo si quid offendebamur, ubi accuratius quaesivimus, intelleximus id non illius sed nostra fieri culpa. Ac profecto, si recte judicare *volumus* [volemus], constituemus illum, qui maximis imperaverit exercitibus, plurimas gesserit res et [omit] in senatoriis muneribus consenuerit, in Caesaris rebus enarrandis errare et noluisse neque potuisse. Qua re si quo loco veteres auctores *a nobis* [inter se] non dissentiunt (quod raro fit, neque saepius recte, quam ipsi hodie in iis, quae vidimus, quae [vel] audivimus, dissentimus) sed dissentire videntur, aequum

est non, nos existimare alterum [utrum] errasse, sed, si fieri potest [possit] rationem aliquam invenire, qua eorum narrationem conjungere possimus [conciliemus], tum scientiae nostrae diffidentes, examinare, num ea dixerint quae dixisse videntur [videantur]. Etenim vix credi potest, quam late hoc vitium scriptorum veterum falso intelligendorum pateat ad quot quantosque ducat errores. Quae [quod] minus ex [omit] negligentia fit nostra quam ex [omit] rei ipsius difficultate.'

To this exercise Professor Zumpt has appended: 'In levioribus rebus nonnunquam erratum, sed apparet ea quae sufficiat Latinitatis scientia', and then given the *Praedicat*, '*befriedigend*'.

We omit the Greek Exercise, only stating that Director Ranke wrote beneath it 'befriedigend, wie in den gewöhnlichen Leistungen. Hier und da tritt eine gewisse Gewandtheit.'

The four mathematical problems assigned were as follows:

'1. A triangle has the three sides $a=9'$, $b=10'$, $c=17'$. How great is the area of that triangle whose angles are the points of contact of the circle inscribed within the given triangle?

'2. The known lines AB$=a$ and AD$=b$ stand perpendicular to each other. From B a point moves in the direction AB with the constant velocity g. At the same time from D a point moves with the velocity γ. What direction must D take in order to meet the point B?—

'3. Solve the equations:—

$$x^2+y^2\sqrt{2}+\frac{y^4}{x^2}=a \qquad \text{and}$$

$$x^4-2y^4 \quad +\frac{y^8}{x^4}=b$$

'4. Which of the spheres whose centres lie on the surface of a given sphere has within this sphere the greatest surface?'

The same young man solved all of these problems, but with some errors, and only received the *Praedicat*, '*befriedigend*'. Some who solved only three of them also received the same *Praedicat*.

The subject of the Latin essay is selected by the Provincial School-Commission from several subjects presented by the class-

instructor, and it must be sufficiently well-known to the students from class-instruction to enable them to treat it intelligently. The four subjects forwarded to the School-Commission were as follows, of which the *third* was chosen, the seal of the envelope containing it not having been broken until the examination commenced:

'1. Illustretur quod Cicero (Phil. ii. 36) ait timorem non diuturnum esse officii magistrum.

'2. Macedonum imperium quomodo et institutum et eversum sit exponatur.

'3. Duas fuisse artes apud Romanos, quae locarent hominem in amplissimo dignitatis gradu, unam imperatoris, alteram oratoris boni.

'4. De imperatoribus Romanis, qui Juliae gentis fuerunt.'

These essays are written on the German official paper, right side, it being folded in the centre, and the left constituting the margin. They fill six such pages, making about three pages large cap paper. They are original essays written in Latin, as the student does not know beforehand what particular subject will be given, and are intended as an exercise in Latin style. The young man above-mentioned received for his essay the following *Praedicat:* 'Emendata haec sunt coloremque Latinum habent, nec res absurde expositae. *Gut.* Zumpt.'

The German essay is about the same length, and is similarly written. The following subjects were presented, of which the *third* was selected:

'1. Lessing's services to German prose.

'2. Why do we love the Odes of Horace?

'3. Is labor really a curse?'

The following *Praedicat* was given for this essay: 'M. hat das Thema richtig aufgefasst. Der Ausdruck ist fliessend und im Ganzen korrekt. Nur hätte M. zwischen den ersten und zweiten Theil eine Brücke schlagen sollen: befriedigend. Preuss.—Classenleistungen, befriedigend.'

The French exercise was the re-translation of somewhat more than a page of cap-paper, translated from Pagaud, 'Histoire de Frédéric le Grand', and M. received the following *Praedicat:* 'Diese Arbeit ist von nennenswerthen Versehen ganz frei, und

kann als "vorzüglich" bezeichnet werden. Classenleistungen, vorzüglich. Imelmann.'

In the oral examination M. received '*nicht befriedigend*' in Religion, and '*befriedigend*' in the other subjects. In Latin he was assigned for translation, Cicero — De Officiis, ii. 13, and in Greek, Iliad ix. 1–22. In Mathematics, he was questioned on the method of solution of Equations of the 1st and 2d degrees; and in History, on the wars between the Greeks and Persians, the time of Constantine, and on the history of Germany during the Middle Ages.

The 'Certificate of ripeness' (*Zeugniss der Reife*) includes: 'I. Conduct and Industry; II. Attainments in (1) Religion, (2) German, (3) Latin, (4) Greek, (5) French, (6) Mathematics, (7) Physics, (8) History and Geography, and (9) Hebrew, for future students of Theology.'

M.'s certificate concluded thus: 'Die unterzeichnete Commission hat ihm demnach, da er jetzt das Gymnasium verlässt um *Militär* zu studiren, das Zeugniss *der Reife* ertheilt und entlässt ihn mit ihren besten Segenswünschen.' Here follow the names of the Commission and date of dismissal.

From this sketch of the course of study in the Gymnasia, and of the Abiturienten-examination, (which we have described in detail, because of its bearing on University studies), it may readily be seen that the classics are regarded as the basis of mental culture and training in the German Gymnasia, but not so exclusively as in the English schools; that other branches of a liberal education are associated with them, such as the vernacular, French, history and geography, physics, natural history, and the elements of mental philosophy; and that less time is given to mathematics than in our schools, and smaller attainments made in it. With regard to this course of study, we asked Director Ranke whether ten hours a week was not too much time to give to Latin. He thought not, and strongly approved of the Latin essay in the Abiturienten-examination as showing an excellent intellectual training, and thought it necessary to give so much time to Latin in order to attain this end. To inquiries with regard to the small amount of mathematics taught in the Gymnasia, he thought it sufficient for the purpose in view, and said

that the large majority of the students found that amount difficult to compass: it is a well-known fact that mathematics is a great bugbear to *Gymnasiasten*, and they generally know very little about it. With regard to the number declared '*unreif*' after the Abiturienten-examination, Director Ranke said that they frequently had classes of twenty in which no one was so declared, and that he could not say that the average number declared '*unreif*' amounted to as many as ten per cent., though in the present Prima of 17 perhaps three or four would fail to pass.

We have frequently used the expression '*Real-Schule*', which needs further brief explanation. The *Real-Schule* is exclusively a German school of Prussian origin, organized into classes like the Gymnasium, but with a very different object in view, and consequently a very different course of study and Abiturienten-examination. No Greek is taught in the *Real-Schule*, less time is given to Latin than in the Gymnasium, more to German, mathematics, and especially the natural sciences; and English is taught in the higher classes as well as French. The Gymnasia are defined by Dr. Wiese as the proper preparatory institutions for the Universities, and consequently they are arranged so as to lay the foundation for higher intellectual culture. The *Real-Schulen* have as their object, to give sufficient general preparation for practical callings, in distinction from the professions, and for entrance into the higher technical schools. Only students with the 'certificate of ripeness' from the Gymnasia can be matriculated as students with full privileges in any faculty of the University, or appear for examination for a degree, or for the State's-examination in any profession. The 'certificate of ripeness' from a *Real-Schule* admits to the military service, but not to the Universities or the professions.

Of the 2310 matriculated students attending the University of Berlin during the winter-semester of 1869-70,[1] 875 were enrolled in the Philosophical Faculty, and of this number 644 were native Prussians; of these 588 entered with the 'certificate of ripeness', none with the 'certificate of unripeness', and 56 without a certificate, but all such occupy an inferior position as students; thus

[1] Amtliches Verzeichniss des Personals und der Studirenden auf der Königl. Friedrich-Wilhelms Universität zu Berlin. Auf das Winterhalbjahr von Michaelis 1869 bis Ostern 1870, p. 55.

more than nine-tenths of the students of a German University enter with a 'certificate of ripeness' from some one of the numerous Gymnasia. In this way then the German Abiturient is prepared to profit by University studies strictly so-called, and his fitness is tested, not at the University, but at the Gymnasium where he has received his preparatory education.

Had we in this country any well-organized system of preparatory schools or Colleges (for the upper classes of the German Gymnasia correspond more nearly to our Colleges than our schools, and even give higher instruction in classics), we might adopt a similar *leaving-examination* to test the student's fitness for University studies. But lacking such a thorough system of 'upper-schools' or Colleges, how shall we plan our University to suit the needs of American education? If we cannot transfer to our country the German system, can we not at least imitate it, and adapt it to our wants? Our entire system of higher instruction is based on too low a plane, and for this the Colleges are greatly to blame. Throughout the whole country we see Colleges doing preparatory work; and as a consequence, lowering the character of their graduates, until the ordinary B. A. degree has ceased to carry any honor with it, and B. A.'s are annually turned out from our Colleges almost entirely ignorant of the very elements of a liberal education. There is no unity of plan of instruction, not only in the private, but even in the public High Schools and Academies in any single State, and consequently there can be no uniformity of preparation for collegiate instruction. It is only by enforcing a rigid system of entrance-examinations that the Colleges have it in their power to relieve themselves of the necessity of doing preparatory work. By placing the standard for entrance sufficiently high, and sternly rejecting all who do not come up to the required standard, the good effect upon the preparatory schools will soon be seen in elevating their standard, and in furnishing candidates for admission to College sufficiently well prepared. So long, however, as we have so many weak Colleges, with meagre endowments and ill-paid Faculties, and so long as the present competition for students exists, a reform such as that suggested, must necessarily be slow in its operation, and could only be carried out by the wealthier Colleges. As may

readily be seen, we do not propose to abolish any of the Colleges, although we have no doubt that there are too many in some parts of the country, and that consolidation would be a benefit; nor do we propose to turn many of them into Universities; but we should like them to do better work, and to this end cannot some external pressure be brought to bear upon the Colleges from the Universities of the future? Let it be laid down as a primary truth, which all would-be founders of Universities would do well to bear in mind always, that no University should be established with insufficient funds, or dependent for support upon the number of its students; otherwise self-interest will very naturally influence its course, and make it lenient in the admission of students. But once placed above pecuniary want, there is no limit to the grade of instruction the University can bestow. The circumstances of American education being as they are, and so different from the German, there being no power of enforcing the same or an equivalent leaving-examination from the different Colleges, the remedy must rest with the University; and to bring this external pressure to bear upon the Colleges, a rigid entrance-examination to the University should be established, therein widely differing from the German Universities, where all is free; but the difference is more apparent than real, for their entrance-examination, as stated above, has already been held by the Gymnasia, all organized on the same plan, furnishing the same grade of instruction, and examining in accordance with the prescribed regulations from the Ministry of Public Instruction.

After settling the fact that we must have for the University a rigid entrance-examination, in order to secure students prepared for University studies, and to prevent the waste of power in both teaching and learning, a most important question of organization arises, one which has been discussed so frequently and warmly in educational conventions and journals, and elsewhere, as to the curriculum or the elective system. A University, from its very nature, cannot have a curriculum; its various studies must be *elective,* or it does not fulfil the office of a University; the nearer it approaches to a Procrustean curriculum, the farther it departs from the University idea, and degenerates into the ordinary College. The method of instruction by the professor must be

free, and the liberty of selection by the student must be free also. Here we must imitate the German method, where liberty of teaching and of learning are both free as the air. The leading departments of human knowledge being represented in our ideal University, and young men entering to learn what suits their individual needs, not to have their minds cast in a common mould, each must be free to select what suits his purposes, or what constitutes for him a liberal education. This applies chiefly to the Faculty of Philosophy, or academical department of the University; for we recognize the fact that the true idea of a University requires, in addition, Faculties of Law and Medicine, exclusively professional departments of study. We wish that we could add a Faculty of Theology too; but that is, in this country, out of the question, for here we do not study Theology as a science, apart from denominational tenets; but owing to sectarian differences, this important subject must be relegated to the various denominations. We believe that there is sufficient room in the Christian religion for a Faculty of Theology in an unsectarian University; where Theology should be studied as a science, and where wider views of religious truth and doctrine might be obtained than in a denominational theological seminary; but we cannot stay to discuss this subject.

If our University system is to be elective, what need, some may ask, for the entrance-examination upon which so much stress has been laid? To certify the authorities that the young man is prepared to profit by the higher instruction given in whatever subject he proposes to study. The course being elective, each department will be necessarily independent of every other, and each professor, or body of professors, in the department will hold his, or their, own entrance-examination. Of course this involves abolishing the class-system of the ordinary Colleges, which is of doubtful expediency even in the Colleges, and is altogether unsuited to the plan of a University. The only so-called class there consists of the number of young men assembled for instruction under each professor, which almost necessarily varies with each individual professor. The entrance-examination will prevent the necessity of the professor's lowering his instruction to suit the unprepared. It will, for a time, fare hardest with the professors

of the different natural and experimental sciences, for until schools exist where at least elementary instruction in science is given, these examinations must be necessarily meagre as compared with those in other departments; but the tendency will inevitably be to cause the establishment of such schools. Did *all* of our Colleges possess a scientific course, thoroughly taught, leading to the degree of Bachelor of Science (as some of them already do), as well as a literary course leading to the degree of Bachelor of Arts, the necessary preparation might be given, and we might hope for advanced University courses in scientific as well as literary studies.

The elective system requires then this complete independence of departments, or schools, and of each professor within the department, but does not involve conflict of teaching between different professors. It tends to subdivide and specialize instruction, and in that way make it more thorough, for each professor is then better able to master his particular subject, and the student is sure of being led to the latest and best thought in that subject.

Examining our plan of a University more carefully, certain questions arise which require an answer. First, at what age should students be admitted to the University? We would not fix an arbitrary limit, but would not advise students under eighteen years of age to enter upon a University course. If we examine the statistics of the German Gymnasia, we shall find that an Abiturient very rarely leaves a Gymnasium so young as eighteen, and the average age is between nineteen and twenty, while the statistics of the Universities will show a higher average age of entrance. The capacity to profit by the instruction should depend upon passing the entrance-examination, and not upon a particular age; but the instruction should be framed for young men of at least eighteen years of age, and those below that age discouraged from entering.

Another important question that presents itself is, whether the possession of the ordinary Bachelor of Arts or Bachelor of Science degree should relieve from the necessity of passing the entrance-examination. To this we should answer, no; for, there being no common system on which these degrees are awarded, they do not always carry with them sufficient guarantee of preparation for

entrance upon University instruction. This is one objectionable feature of the proposed bill for 'a National University', but, as we have already said, we regard that whole scheme as objectionable on many accounts. It is a well-known fact that young men often leave the lower classes of a College better prepared than many who serve their time and carry away their diplomas.

When our University became established in public opinion, it would react upon the Colleges; for it would be esteemed a dishonor for a College graduate to fail in his entrance-examination. The question might naturally be asked, would not the tendency of this be to deter College graduates from entering the University? At first it would probably do so; but the object of a University must ever be borne in mind, to furnish, in each department of knowledge, the highest instruction which the country is capable of giving, and of receiving, and only those who desire this instruction would apply for it. The main defect in American education is, that it is hurried through too fast. Many leave school and College too soon, and to this is due the lack of eminent scholars in the country, and of well-educated men in the different professions. In many instances, those who have attained eminence have done so in spite of their early education, and not by reason of it. Whatever would have a tendency to remedy this notable defect would be a national blessing; and we firmly believe that the establishment of Universities giving instruction of the highest grade in all departments, affording the opportunity to all of learning the best thought on all subjects of instruction, and obviating the necessity of going abroad for this purpose, would eventually produce the desired effect. We are not so credulous as to imagine that a few years would suffice to effect this. Perhaps the next generation might see some of the results; but unless a beginning is made, we shall continue to go on in the same hum-drum path, and our most advanced Universities will continue to be but a sort of Colleges, competing for students with the ordinary Colleges, and furnishing instruction but little, if at all, superior to theirs. We do not expect many students to attend an institution of this sort at first, and therefore we have said that it should be abundantly endowed, either by public or private benefactions, so as to be placed above

all want. There is too great a disposition in the country to judge of the value of an institution by the mere number of its students, not by the character of its work and the best men that it turns out. Let the trustees and faculty of such an institution as we are describing be content to have few students, especially at first, and let them rest assured that the impression made by these few upon the culture of the country will, in time, abundantly compensate for lack of numbers. The true test of the worth of a University is excellence of scholarship, and not number of students.

Two other questions with regard to the proposed plan present themselves, and though of minor detail, are still of sufficient importance, in our opinion, to justify notice.

First, should the plan of the German Universities be followed, and the professor always lecture the whole hour without questioning of any sort, and without use of text-book of any kind? With regard to the first branch of this question, it is, doubtless, true that for comparatively mature minds, and with the sole object of stimulating independent study, this plan may work well. There is less compulsion about it, and the professor has the advantage of economizing time for lecture. But with students as prepared by our American schools and Colleges, we think it best to adhere to the system of questioning on the previous lecture, to render certain the mastery of its truths, and, moreover, because we think the method of careful questioning tends to develop thought better than when the mind is a passive recipient of the truths uttered by the lecturer. The judicious lecturer need not make this a mere parrot-like repetition of his own words, but may make it the vehicle for discovering whether the student has mastered the principles, as well as the facts, of the subject discussed. We are aware that more may be said in favor of dispensing with all questioning of young men; but, balancing the advantages of each method, we prefer to adhere to the practice of questioning, at least in the present stage of American education. This does not by any means imply a numerical valuation of the answers given, as is at present the custom in most of our American Colleges; for this we would dispense with entirely, except in the case of written examinations, considering the marking system altogether unsuited to an advanced stage of instruction.

With regard to the second branch of our question, full liberty must be given to each professor, for he alone is able to determine what is best for his own wants and those of his students; but, for many reasons, every advantage should be offered, and all due influence used, to cause the adoption of the lecture system as opposed to the text-book system. It stimulates the professor to labor, causes him to prosecute researches to the furthest extent, will not let him rest satisfied with the dicta of any text-book, but after searching through and weighing all authorities, enables him to form his conclusions, which he should frankly state to his students, with the arguments on which they are based, and with those of his opponents, so as to enable the student to form an independent opinion. It stimulates the student by requiring his closest attention, excites his eagerness to catch the professor's words, facilitates his power of transmitting to paper what comes to him through the ear—an acquirement by no means to be despised—furnishes him with a compendious statement of principles and arguments, often superior to any available text-book, and, best of all, encourages him to investigate and examine for himself, and form his own conclusions. It thus encourages independent study, and illustrates the magic power of the spoken, as opposed to the written, word. Still, cases may arise where the printed text-book may be necessary, especially in mathematical and physical science, when the professor may utilize time to advantage by reference to the printed form, so that we think this matter should be left in the hands of each professor. The tendency, however, of American education is to lay too much stress on the mere text-book, and make it do duty in place of personal teaching of the professor. Our teachers, even in Colleges, are too often not qualified to teach without the text-book, in this showing a marked difference from the Germans. The better prepared the professor, the less will be the necessity for text-book instruction, and it is at this that we should aim, to secure men thoroughly competent in their respective branches of instruction, who have given years of study to the subject they are called upon to teach, and who possess thorough knowledge of the subject and ability to instruct in it. Our University should be so endowed that salary would be a matter of minor consideration, and it

should be able to command the best available knowledge in each separate subject of instruction.

Our second question is, whether we shall imitate the Germans and dispense with written examinations on the subjects of the professors' lectures; or imitate the English, and appoint examiners distinct from the lecturers, who shall examine on the various subjects of study pursued in accordance with a prescribed course, without regard to the particular lectures attended by the student; or shall we adopt a plan of our own? We think that there are objections to both the German and English methods, and with our University approximating more nearly to the German plan, though differing from it in some essential particulars, we would superadd rigid written examinations for degrees on the subjects of study embraced in the professors' teaching. This would insure, on the part of aspirants, thorough attention to the professors' instruction; and these examinations should not be limited simply to the professors' lectures, but opportunity should be given for testing the results of independent study on the part of students, those passing subsidiary examinations taking, of course, higher rank. The German plan of non-examination does not necessitate the study of the lectures, or of the subject apart from them, but gives room for many drones among the workers. The results of the teaching cannot be tested in individual cases; and while this plan is suited to the German system, where professional examinations supervene upon attendance at the Universities, it is not so well suited to the requirements of American education. We have already noticed the German State's-examination (*Staats-Prüfung*) for teachers, and, as above-mentioned, similar professional examinations must be passed by candidates for admission to the professions of Law, Medicine, and Theology, so that there the State renders it unnecessary for the University to hold examinations, but 'Young America' would hardly submit to such an abridgment of 'civil rights'; so that our University must hold its own examinations in each department.

The English plan of examiners distinct from the lecturers is open here to the insuperable difficulty of procuring such examiners; it is part and parcel of the English system of growth, which cannot be transplanted. The reserve of resident Fellows

of the different Colleges in the Universities furnishes an inexhaustible supply of examiners in special subjects. But it is, in our opinion, liable to still more fatal objections than the one mentioned. Only the professor who teaches a class, knows the calibre and attainments of the class, what it ought and what it ought not to attempt, and only he can frame his examination so as to afford a fair estimate of what the class has and has not learned. If a conscientious man, and this must be taken for granted, he will not place his standard too high or too low; and against the latter, professional rivalry and *esprit de corps* will also act as a preventive.

It has often been urged against the system of written examinations, that it tends to encourage 'cram', and so dwarfs and cripples the mind, besides subjecting some minds to constraint and over-exertion. We think that too much has been made of this objection, which is, to a certain extent, true; but the same objection holds good against a rigid oral examination. We need no further evidence of this than Professor Hart's description of the German oral examination for the degree of Doctor of Laws.[1] But, we would ask, can anything that is worth knowing, be learnt without an active exercise of memory? and in the process itself of memorizing, where it is not mere verbatim, mechanical, by-rote repetition, are not other powers of the mind, comparison, judgment, reasoning, brought also into active exercise? Moreover, the system itself of lecturing, especially when combined with careful questioning upon the successive lectures, tends to obviate the necessity of 'cramming' for examinations. On nearly all subjects there is a mass of detail which is valuable knowledge, especially to the accurate scholar in the particular branch, but which requires a greater effort of memory than the general principles and prominent facts of the subject, and this constitutes the material for so-called 'cram', the injurious effects of which have been greatly exaggerated. Again, the judicious professor has it in his power so to select his examination-questions, as to avoid the necessity of 'cram', and students readily accommodate themselves to the mental habits of their particular professors. Even allowing this to be a minor objection, the system has so much to

[1] Hart's 'German Universities', part i., chap. xvi.

recommend it, that its advantages counterbalance its disadvantages. It throws the student upon his own resources, and is in itself a wonderful means of mental training. It enables him to present in clear, concise, and compact form, his knowledge of the subject, and teaches him better than any other method, to estimate rightly his own deficiencies, and to set himself to supply them. It teaches him to think accurately, to divest his thoughts of all extraneous matter, and his statement of them of all superfluous verbiage, and to concentrate his attention upon the one subject in hand. The course of study in preparation for such a written examination as we refer to, constitutes most excellent mental discipline. Besides its advantages in itself, such an examination affords the justest and most reliable means of judging of a student's knowledge of a subject, of his mental capacity, and especially of his general mental attainments. To students without previous training in this method, it sometimes requires practice to accommodate themselves to it; but before reaching the final examination for degrees, sufficient opportunity should be afforded by the professor, for each student to familiarize himself with it. Finally, it is also, in our opinion, the most accurate and reliable method for awarding honors or degrees, as tests of excellence in any subject.

Summing up, in brief, what seems to us a suitable plan for organizing a true American University, we should require that it possess the three Faculties of Law, Medicine, and Philosophy, or Arts, with a sufficient number of professors in each to teach thoroughly the various subjects of instruction. We cannot hope, in the beginning, to rival our German brethren,[1] but we can make *haste slowly* and according to the needs of our people. In the Faculty of Philosophy, or academical department, each department of study should be separate from every other, whether taught by one or several professors; and where several professors are employed in one department, their subjects of instruction should be different, so as to constitute the widest field for selection. As closely connected with this plan of organization, the system should be elective, each student choosing those subjects of

[1] The University of Berlin has 178 Instructors, that of Leipzig 141, while that of Vienna has 226. See Hart's 'German Universities', part ii., chap. viii.

study, and those particular courses of lectures in each, which best suit his own mental needs. But to prevent lowering the grade of instruction, whatever previous preparation is required to enter with advantage upon each course of study, should be ascertained by a rigid entrance-examination, and those found unprepared, should not be merely 'conditioned', as at present in most of our Colleges, but not allowed to enter until all deficiencies are made up. The good effect of this system, in raising the standard of the schools and Colleges which prepared students for the University, would be apparent in a short time. It would also show itself in the age and maturity of mind of those students who applied for admission to the University, would prevent it from being the rival of the ordinary Colleges, and enable it to become a suitable complement to collegiate instruction.

With regard to the system of instruction pursued within the University, that of instruction by lecture should be encouraged, and the text-book system discouraged; but, different from the German Universities, questioning upon the preceding lecture should follow at the next succeeding lecture. Another material point of difference from the German plan, would be the written examinations for degrees, held at the close of each course of lectures required for the degree, with subsidiary examinations designed to test the independent study of those who presented themselves for such examinations. The written-examination plan assumes, that in this way a greater amount of study will be bestowed, and a better estimate of the student's knowledge of his subjects of study will be gained, than in any other way. It also assumes that, when combined with questioning on the lectures as delivered, it affords a better guarantee for avoiding 'cram', and becomes a most important adjunct in the mental training of the student.

We have so far omitted to notice the question of 'endowment of research' at the University, which is at present agitating the educational world in England, especially since the publication of the Report of the Universities Commission. If endowments are to be given for the prosecution of scientific researches, they should be given in connection with the Universities; but we think the German system has heretofore produced greater results than the

English. Each German professor considers that his professional reputation places him under obligation to prosecute researches in his particular department: his zeal for pure science (*Wissenschaft*) acts as a powerful stimulus; and the fact that he is teaching a body of young men, to whom he can give the results of his researches in the first instance, is another powerful stimulus. No professor should be so burdened with the work of teaching, as to deprive him of time to prosecute scientific researches. It is important to the well-being and reputation of a University that the world should, from time to time, see the fruits of its labors, as well in the additions to human knowledge made by its professors, as in the culture of the young men whom it sends out. Let then, the endowments act as an additional stimulus to the labors of the University professors, and not take the place of other stimuli which already exist; and let us not have two classes of professors, one for instruction, and one for research. The combination of these two objects in a University can readily be secured, and their successful prosecution will further the best interests of the country. Our limits do not permit us to discuss this subject further, but we recognize the importance of such endowments, and their true place in a University organization.

The last question which presents itself is a practical one, and we shall notice it very briefly. Can we modify the plan of any existing Universities or Colleges, or organize new Universities, so as to attain the objects which we have hurriedly attempted to set forth? With regard to the new ones, if they are sufficiently endowed to be able to wait patiently for students, it seems to us that the most formidable obstacle is removed, and all the rest depends upon the views and acts of those who have the management of these Universities. With regard to existing institutions, greater difficulties lie in the way. The endowments of the large majority are meagre, and they are dependent for support upon the numbers of their students. Moreover, the force of tradition has to be overcome, and the conservatives will maintain that the country is not yet ready for such a University as we have in view. But if a beginning is not made, we shall wait forever; and it seems to us that now is a suitable time for such a beginning. We could name several institutions in New England, the Middle,

Southern, and Western States, which seem to us to have already attained a sufficiently prominent position in the country, to warrant their gradual development into real Universities. Some of these have of late years taken steps forward, and perhaps, as fast as the resources at their command, and the conservative sentiment at their backs, will permit; but we are still far short of the mark. We shall never retain in this country the best scholars among our young men, and stop the annual migration to German Universities, until something more is done for them. At present, it is not desirable that this migration should cease; but it *is* desirable, that America should compete with the countries of the old world in the character and breadth of education which its best institutions of learning can give; and unless a beginning is made, when will the desire ever be accomplished? It is well to make haste slowly, but we have not made haste as fast as the rapid growth and material development of our country, and the needs of the educated classes, demand. While some few of the Colleges have improved, higher education has been too long at a stand-still, and until very recently, sufficient interest in this subject has not been awakened. We think that the last five years have shown a change in this respect, and that the development of higher, and especially University education, is one of the most important educational questions of the day. Let us then cast aside the trammels of the old curriculum, recognize the important difference between the College and the University, and introduce freedom of teaching and of learning as the fundamental basis of our University organization. In the words of the Duke of Devonshire, at the opening of the new buildings of Owens College, Manchester,[1] 'It is now very generally recognized to be the proper function and duty of a University to teach not only some few selected subjects, but every great and important branch of human knowledge on which the human faculties can be employed.' But as this field is well-nigh illimitable, we must confine our selection for the present to representative branches of knowledge, and add to them as time and opportunity permit. And as to the spirit in

[1] 'Essays and Addresses by Professors and Lecturers of the Owens College, Manchester', p. xi.

which our zeal for knowledge should be prosecuted, let us apply Professor Hart's definition of the German *Wissenschaft*:[1] 'By *Wissenschaft* the Germans mean knowledge in the most exalted sense of that term, namely, the ardent, methodical, independent search after truth in any and all of its forms, but wholly irrespective of utilitarian application.' It is hard to impress this idea upon the practical American mind. Utilitarianism is, above all things, the average American's besetting sin; but it is to be hoped that the utility of culture will ere long be recognized as best suited to the demands of American life.

There is a daily increasing number who would hail with delight the organization in this country of a few real Universities, and would gladly give of their means to further this end. No State system of public instruction is complete until this end is attained; and as it is not to be expected that the country could support as many Universities as there are States, or even half that number, is it too much to hope that adjoining States in different parts of the country may ultimately join in the development of the leading University in their midst, and thus furnish the country with what it needs? The sole other hope is in the enlightened munificence of wealthy men, who are not slow to devote their wealth to the purpose of education; but whose vision is too often narrowed to the design of adding one more to the already too numerous Colleges of the country. Too often also, the bulk of an endowment is expended in magnificent buildings, and little is left for that which constitutes the real College or University, the staff of professors.[2] The strength of a University lies in the men who give the instruction, and not in the buildings where that instruction is given, however grand they may be. We have a firm conviction, that the time will come when America will have one or more Universities; but we think that the nineteenth century, which has witnessed the unprecedented development of the country in so many other directions, should witness this also. Were we to begin now, the close of the century might, perhaps, see the accomplishment of our undertaking.

[1] Hart's 'German Universities', p. 250.

[2] Some excellent remarks on this subject will be found in Prof. Hart's valuable work (chap. vii., part ii), and it would be well for the country if College Trustees would give heed to them.

A writer twenty years ago in the *Dublin University Magazine*, in an excellent article on 'The Universities of Germany',[1] says of Universities in general: 'Their influence is not limited to the rising generation; and their claims to our examination rest upon a still broader foundation. They are nurseries for the philosopher, the scholar, and the statesman—for all who are to fill the most important stations of a country—in short, we may call them the foci of a nation's intellectual life, the sources of its learning, and the fountain of its science,—the illustrious assemblages of all its wisest and most thinking men. Moreover, as great social bodies, they display in a remarkable way the genius and character of a nation, and exercise a decisive influence on its moral, political, and social condition.' After a clear, full and accurate description of the German Universities, he says of them, in conclusion: 'They stand as the strongholds of modern European intelligence, and form the safest and firmest anchors of general civilization and knowledge.' Is a similar statement true of American Universities; and if not, how long shall it be before it is true?

1 Reprinted in *Littell's Living Age*, No. 587, for 25th August, 1855, found in Vol. x, (Second Series,) p. 476.

NOTE.—This note properly belongs to foot of page 9, but, as it was received too late to be inserted there, we give it here:—

As illustrating the occupations of Fellows at the English Universities, we quote the following from an article on 'Pliny's Letters' in the *Westminster Review* for April, 1875. The reviewer, commenting on the need of a 'College Edition' of Pliny's Letters, remarks: 'Surely there are at Oxford and Cambridge a number of idle men called Fellows who ought to see to this. There were at any rate many such in our day, and we do not believe that the genus is extinct. These men have not always been idle; on the contrary, many of them have acquired and exhibited at the age of two- or three-and-twenty a familiarity with the Greek and Latin languages such as we firmly believe is not to be found in any corresponding body of youths in any other country in the world. We put out of the question such of them as are engaged in College or private tuition; though by the the way, those are the only ones who favor us with classical editions of solid merit. We speak of those who have taken the most extraordinary pains to render themselves capable of being useful in certain branches of learning, are discovered, by the curious observer, vegetating under the ivy of the quadrangles; who, after having succeeded in writing better Latin prose than Lipsius, and better Greek verse than Scaliger, have all of a sudden deviated into common-room gossip and short whist. It would almost seem as if, in the absence of a sense of duty, an imperious yearningto be doing something with all this load of knowledge would have impelled some of these to turn their attention to neglected manuscripts and neglected authors.'

If this is the result of Fellowship endowments, we are naturally tempted to ask, *Cui bono?*

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University Organization.

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